UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,727	11/26/2003	Fernando C. M. Martins	042390.P16775	9793

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EXAMINER
WAI, ERIC CHARLES

ART UNIT	PAPER NUMBER
2195	

MAIL DATE	DELIVERY MODE
06/30/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/723,727	MARTINS ET AL.
	Examiner	Art Unit	
	ERIC C. WAI	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>25 February 2008</u>.

2a)☒ This action is **FINAL.**　　2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-4,7-14 and 17-27</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-4,7-14 and 17-27</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some *　c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

U.S. Patent and Trademark Office
PTOL-326 (Rev. 08-06)　　　　　　　　　　**Office Action Summary**　　　　　　　　　　Part of Paper No./Mail Date 20080625

DETAILED ACTION

1.   Claims 1-4, 7-14, and 17-27 are presented for examination.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all
obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-4, 7-14, and 17-27 are rejected under 35 U.S.C. 103(a) as being
unpatentable over Naik et al. (US PG Pub No. US 2006/0294238 A1).

4.   Regarding claim 1, Naik teaches a method of sharing resources on a grid
network, comprising:

configuring a host to include a grid virtual machine ([0074] lines 10-15, wherein a
host computer includes a virtual machine and operating system that can support grid
applications), where the grid virtual machine is isolated from the second virtual machine
([0021]);

allocating resources on the host to the grid virtual machine (it is inherent that
resources be allocated to the grid VM running on the host); and

executing a grid application in the grid virtual machine ([0074] line 14).

5.   Naik does not explicitly teach a second virtual machine and that the second
virtual machine is configured to run applications other than the grid application.

6.   Naik does teach that each virtual machine operates as an individual machine by itself ([0021]). It would have been obvious to one of ordinary skill in the art that a second virtual machine running applications other than the grid application could exist on the system. One would be motivated by the desire to operate another virtual machine to perform other services as indicated by Naik ([0021]).

7.   Regarding claim 2, Naik teaches that allocating the resources further comprises a virtual machine manager allocating at least the portion of the resources ([0074] lines 15-16, wherein it is well known in the art that a VMM assists in mapping resources).

8.   Regarding claim 3, Naik teaches that a resource manager allocates resources to the grid virtual machine to supplement the resources allocated by the virtual machine manager ([0048], wherein a hierarchy of resource managers assists in managing resources).

9.   Regarding claim 4, Naik teaches that the resource manager performs dynamic load balancing on the grid network ([0048-055], wherein the resource manager can predict and forecast the load on the resources).

10.   Regarding claim 7, Naik teaches:
        retrieving predefined policies for the grid virtual machine ([0077]); and

monitoring the grid virtual machine to determine if the grid virtual machine

violates the predefined policies ([0077], wherein the policy handler enforces the

policies).

11.   Regarding claim 8, Naik teaches that the predefined policies include predefined

resource thresholds for the grid virtual machine ([0078]).

12.   Regarding claim 9, Naik teaches that a resource manager takes appropriate

action if the grid virtual machine violates at least one of the predefined policies ([0078]).

13.   Regarding claim 10, Naik teaches that the resource manager taking action

further comprises at least one of the resource manager automatically limiting resources

available to the grid virtual machine ([0078]), and the resource manager notifying a user

that the grid virtual machine violated at least one of the predefined policies.

14.   Regarding claims 11-14, and 17-20, they are the article claims of claims 1-4, and

7-10 above. Therefore, they are rejected for the same reasons as claims 1-4, and 7-10

above.

15.   Regarding claims 21-24, they are the system claims of claims 1-3, 7, and 9-10

above. Therefore, they are rejected for the same reasons as claims 1-3, 7, and 9-10

above.

16.   Regarding claim 25, Naik teaches a grid network, comprising:

a first host capable of running a first grid virtual machine and a second virtual

machine ([0074]), the second virtual machine isolated from the first grid virtual machine

and configured to run applications other than a grid application ([0021], wherein each

virtual machine is isolated from each other).

17.   Naik does not explicitly teach a second host coupled to the first host, the second

host capable of running a second grid virtual machine and a third virtual machine, the

first grid virtual machine and the second grid virtual machine capable of simultaneously

executing a grid application.

18.   However, Naik teaches the concept of grid computing wherein it is inherent that

multiple host computers exists in a loosely coupled fashion to perform a common task

([0007]). It would have been obvious to one of ordinary skill in the art at the time of the

invention to have a second host coupled to the first host with similar capabilities to

execute a common application. One would be motivated by the desire to pool together

many computing resources to perform a large task ([0006]).

19.   Regarding claim 26, Naik teaches that the first host includes a first resource

manager and the second host includes a second resource manager, the first resource

manager and the second resource manager each capable of allocating resources to the

first grid virtual machine and second grid virtual machine respectively ([0048], wherein a

hierarchy of resource managers assists in managing resources).

20.   Regarding claim 27, Naik teaches that the first resource manager and the second

resource manager are additionally capable of retrieving policies for the first grid virtual

machine and the second grid virtual machine respectively ([0077]).

Response to Arguments

21.   Applicant's arguments filed 02/25/2008 have been fully considered but they are

not persuasive.

22.   Applicant argues on pg 8 of Remarks:

"The present invention describes a very specific scheme whereby a portion of

each host may be "carved out" and dedicated to a grid application while the remainder

of the platform continues to function uninterrupted. Moreover, "because of the isolation

of virtual machines within the host, the user's data and documents are protected from

corruption by the grid application. Conversely, the user may not inadvertently and/or

purposely tamper with the grid computing environment because the computing device

may be configured such that the user does not have access to the Grid VM"

(Specification, Paragraph 13). Nothing in Naik describes such a scheme and the

Examiner has shown no support for this type of a scheme other than a conclusary

statement that "it would have been obvious to one of ordinary skill in the art". The

invention as claimed herein addresses protection of user data in an isolated virtual

machine while a grid application runs within a separate virtual machine on the same

host. Nothing in Naik describes such a scheme. Applicants respectfully submit that the scheme as claimed herein was not obvious to one of ordinary skill in the art as evidenced by the fact that the Examiner was unable to show that anyone is currently using such a scheme."

23.   Examiner disagrees. Naik details a PC-based grid infrastructure previously used in the prior art ([0020]). Naik teaches that the DCGrid Platform allowed for isolating grid applications from the native applications through some undisclosed secure technology ([0020] lines 6-9). In [0021], Naik goes on to detail the use of virtual machines to preserve the integrity of computer systems. The use of virtual machines allows users to run multiplatform applications and services in different virtual machines in a straightforward manner ([0021] lines 5-8). Naik has clearly indicated the knowledge available to one of ordinary skill in the art at the time of the invention. Therefore, the teaching of platform isolation in a computer system using a plurality virtual machines wherein one virtual machine is dedicated to running grid applications and the other virtual machines are used for other applications naturally flows from the teachings of Naik.

Conclusion

24.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Eric C. Wai whose telephone number is 571-270-1012.

The examiner can normally be reached on Mon-Thurs, 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Meng - Ai An can be reached on 571-272-3756. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Meng-Ai An/   /Eric C Wai/
Supervisory Patent Examiner, Art Unit 2195   Examiner, Art Unit 2195